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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,672	06/13/2001	Hyun-Dong Lee	678-659 (P9670)	5097

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DILWORTH & BARRESE, LLP
333 EARLE OVINGTON BLVD.
UNIONDALE, NY 11553

EXAMINER

AGDEPPA, HECTOR A

ART UNIT	PAPER NUMBER
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2642

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/880,672

Applicant(s)

LEE, HYUN-DONG

Examiner

Hector A. Agdeppa

Art Unit

2642

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to applicant's amendment filed on 2/17/05. Claims 1 – 8 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,427,017 (Toki) in view of applicant's admitted prior art and US 6,554,098 (Komura).

As to claim 1, Toki teaches a piezoelectric transparent speaker unit 26, read as the claimed panel-type speaker mounted on a plate, interposed between a liquid crystal display (LCD) transparent member 2, read as the claimed LCD window exposed on the top end of an upper casing frame of a main body of a mobile communications terminal 1, and an LCD body 10, read as the claimed LCD module. Toki further teaches a front airspace 6 and back airspace 11, either reading on the claimed gap. (Figs. 1 and 2 and Col. 2, line 65 – Col. 3, line 23, Col. 5, lines 15 - 31 of Toki)

What Toki does not teach is the claimed plate being divided into a first and second portion with the speaker vibrator or exciter being mounted on the second portion as Toki employs a piezoelectric speaker means. However, Komura teaches a panel speaker means wherein a vibration driver is mounted on one end of a vibrating plate, wherein the vibrating plate can be any type of display such as an LCD display.

(Abstract, Figs. 10 – 12, Col. 2, lines 62 – 65, Col. 3, lines 4 – 56, Col. 5, line 19 – Col. 6, line 12, Col. 9, lines 16 – 61 of Komura)

Also, as seen in Fig. 2 and P. 2, lines 7 – 23 of the specification for the present invention, it is conventionally known to have a speaker/LCD configuration wherein the plate upon which the speaker unit is mounted is divided into a first and second portions. It would have been obvious for one of ordinary skill in the art at the time the invention was made to have used a speaker configuration as taught in the admitted prior art or as that taught by Komura inasmuch as any known speaker means that could be interposed between LCD transparent window 2 and LCD body 10 of Toki would effect the same operation contemplated by Toki.

Toki teaches a configuration in terms of the layering of elements exactly like that disclosed by the present invention. Moreover, as seen by applicant's admitted prior art and the recited advantage to the present invention, the actual speaker means are inconsequential as long as they comprise a panel-type speaker. The inventive aspect of applicant's invention is merely placing a window or extra barrier over or on top of the plate or LCD window upon which the speaker is mounted. Even in many conventional devices, the LCD means is covered by a window that is usually integrated into the body

Art Unit: 2642

cover. It would be rare if at all possible to find a wireless telephone for example, that didn't employ some window cover for the LCD display.

As to claim 2, see the rejection of claim 1 and note that applicant's admitted prior art teaches the second portion extending in the length-wise direction of the radio terminal below the LCD window away from a top portion of the device.

As to claim 3, Komura teaches that nearly any transparent material may be used as the panel such as a light transparent, light transmissive, light reflective, light reflective preventive, shielding, etc. materials. Either light transmissive or light reflective or shielding materials may be read as a polarizing material. The effects of any of these materials including the polarizing materials does not affect the inventive aspect of the present invention, but is merely one of a plurality of known materials that may be used in this instance for effecting a certain visual characteristic.

As to claim 4, see the rejection of claims 1 and 3. Note that as discussed in claim 3, the panel in claim 1, analogous to the second LCD window in claim 4, may be any transparent material. Usually, LCD windows, as discussed above, are merely integrated into or with the body cover and hence can be any transparent material. Therefore, the same material used for the first LCD window could be used for the second LCD window inasmuch as they have the same property requirements, i.e., being transparent.

As to claim 5, see the rejection of claim 2.

As to claim 6, see the rejection of claim 3 and note again, that any material having some transparent or light reflecting properties can be made from glass or plastic

Art Unit: 2642

or some polarizing material. Note also, that because claim 6 recites the language "formed of one of..." all that the prior art must teach is one of the claimed limitations and at least the polarizing material is taught by Komura as discussed above.

As to claim 7, see Fig. 2 of Toki and note that the piezoelectric speaker comprises in part electric 45 which is in contact with LCD transparent member 2.

As to claim 8, see Fig. 2 of Toki and note that back airspace 11 creates a configuration wherein LCD body 10, read as the claimed LCD module, is spaced from the panel or piezoelectric speaker unit 26.

Response to Arguments

3. Applicant's arguments filed 2/17/05 have been fully considered but they are not persuasive.

As to applicant's arguments, as stated in the previous action and as repeated above, the purpose and motivation for applicant's invention is merely to protect a speaker function from being disabled from a fall or somehow breaking when an LCD portion to which the speaker is attached is itself broken. Toki clearly discloses a means and method of protecting a certain element by orienting it in a device with a gap of some sort or at least a protective cover or out layer, so that any damage done to an exposed surface will not affect any element behind that exposed surface.

Komura was used merely to show that a speaker module could be connected to any plate-like structure and be oriented anywhere on that structure, whether in the center or at an edge, lower portion, upper portion, etc.

Applicant's admitted prior art already shows that a speaker portion can be connected to an LCD member. However, applicant has characterized the prior art as in Fig. 2, as not having any type of protecting screen over the LCD, and as examiner stated in the previous office action, and restates above, one would be hard-pressed to find any device wherein the LCD window was directly exposed to the outside environment. One need only look at any standard mobile phone and he/she will notice that the LCD module always protected by a window that is most often a clear piece of plastic integrated into the mobile phone case. Even if such an argument could be made, see Fig. 5 of Toki wherein a protective screen 27 is shown. Even applicant's own description of the embodiment of the present invention shown in Fig. 4 indicates that the speaker module can simply mounted on a second LCD window 41, as in the prior art, but merely placing a first window 40 in front of that. Therefore again, no matter what the speaker module is mounted on, all that is needed is to place a protective window in front of the LCD or speaker panel. In fact, it would have been obvious for one of ordinary skill in the art to have merely taken the exact setup of the prior art as seen in Fig. 2 and added a protective cover or window to the device. In such a case, the only addition to the prior art is a protective cover which has a plethora of motivations and is notoriously old and well known not only in the telephony device art.

Art Unit: 2642


Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4,885,580 (Noto et al.) teaches incorporating a protective cover for an LCD display.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hector A. Agdeppa whose telephone number is 571-272-7480. The examiner can normally be reached on Mon thru Fri 9:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad F. Matar can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AHMAD MATAR
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Hector A. Agdeppa
Examiner
Art Unit 2642

H.A.A.
June 26, 2005